

1. A method for manufacturing a semiconductor device comprising the steps of:

forming a multilayer film including an insulation film on a semiconductor substrate;

forming a resist mask by patterning a resist applied on said multilayer film;

etching said multilayer film using said resist mask;

removing said resist mask after completing said etching; and

processing said semiconductor substrate to create a trench utilizing said multilayer film having removed said resist as mask.

2. A method for manufacturing a semiconductor device comprising forming a multilayer film including an insulation film on a semiconductor substrate, subsequently patterning a resist to create a resist mask,

subsequently etching said multilayer film, subsequently removing said resist mask, and subsequently processing said semiconductor substrate to create a trench utilizing as mask said multilayer film having removed of said resist mask.

3. A method for manufacturing a semiconductor device comprising the steps of:

forming a mask layer having openings corresponding to element isolation regions on a semiconductor substrate;

etching said semiconductor substrate utilizing said mask layer as mask to form upper end portions of a trench in tapered shape; and

etching said semiconductor substrate utilizing said mask layer as mask to form the main trench portion.